No.



200200094

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

Pure Seed Testing, Inc.

MUCCULS, THERE HAS BEEN PRESENTED TO THE

### Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE MAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLETO WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY TRANSFORM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLEMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE SETTO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR TING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE URPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

#### BENTGRASS, VELVET

'Greenwich'

In Testimonn Mexect, I have hereunto set my hand and caused the seal of the Hant Hariety Frotestion Office to be affixed at the City of Washington, D.C. this eleventh day of Warch, in the year two thousand and hive.

Attest:

Commissioner

Plant United Restarting Off

missioner t Variety Protection Office cultural Marketing Service ary of Agriculture

S&T-470 (2-99) designed by the Plant Protection Office with WordPerfect 6.0a. Replaces STD-470 (6-98) which is obsolete. (See reverse for instructions and information collection burden statement)

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more that 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the Certificate.

Plant Variety Protection Office Telephone: (301) 504-5518 FAX: (301) 504-5291

Homepage: http://www.ams.usda.gov/science/pvp.htm

#### ITEM

18a. Give:

- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
- (2) the details of subsequent stages of selection and multiplication;
- (3) evidence of uniformity and stability; and
- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified.
- Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
  - (1) identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences;
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
- 19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
- See Section 83 of the Act for the Contents and Term of Plant Variety Protection.
- 22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
- See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.
- 21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)
- 22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

  The date of first sale was a certified lot on 9/19/01 in the USA.
- 23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patenti).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the applicant/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.131, 97.175(h) of Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center—East, Beltsville, MD 20705. Telephone: (301) 504-8089.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per reponse, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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#### Exhibit A.

## Origin and Breeding History of Greenwich (EVM) Velvet Bentgrass

EVM velvet bentgrass (Agrostis canina L. subsp. canina) is a medium dark-green, lowgrowing, very fine-textured, turf-type cultivar selected from the maternal progenies of 35 plants. Sixty-four plants of similar phenotype served as additional pollen plants. Twenty-two of the plants trace their origin from plants selected from old turfs on the Lake Success Country Club and 1 plant from the Pine Hollow Country Club both on Long Island, New York. The origin of the seed used to establish these turfs is unknown. Twelve of the maternal plants trace to selections from a turf seeded in October 1985 at the Horticulture Farm II of Rutgers University at North Brunswick, NJ. This replicated cultivar test was maintained under putting green conditions. The entry "Emanuel Francis" was the only velvet bentgrass entry in the trial with creeping bentgrass entries. After about 5 years of mowing at 1/4 inch, the Emanuel Francis entry had mostly disappeared from the four plots seeded in 1985. At this time, the cutting height was lowered to 5/32 inch and the velvet bentgrass started to dominate the original four plots. It appeared that an extremely small percentage of the original seedlings were able to thrive under the conditions of this test and produce patches averaging about 6 inches in diameter. The most attractive of these were selected during the summer of 1996 and transferred to a spaced-plant nursery at the Rutgers Plant Science Research Farm at Adelphia, NJ along with selections from Lake Success Country Club, and the National Golf Links Country Club, Bridgehampton, NY.

In June 1997, attractive low-growing, disease-free plants were moved to an isolation block labeled EVB. Twenty-three clones traced their origin to Lake Success, two were from the National Golf Links and 2 were from the Emanuel Francis source.

Seed from each line of the EVB block was harvested and reseeded for increase as spaced plants in a nursery of 2400 plants in the fall of 1997 along with new selections from Pine Hollow Country Club and the Emanuel Francis plots.

In June of 1998, the most attractive medium-maturing, medium-dark, low-growing, fine-textured plants were moved to an isolation nursery labeled EVM. A total of 99 plants were allowed to interpollinate. Thirty-five were harvested. The sources of these were as follows: 29 tracing maternally to Emanuel Francis (12 harvested), 61 tracing maternally from Lake Success

Country Club (22 harvested), 8 tracing maternally from Pine Hollow Country Club (1 harvested) and 1 plant from National Golf Links Country Club that was not harvested.

Seed of these 35 EVM lines was sent to Pure-Seed Testing, Inc., Hubbard, OR in the summer of 1998 for evaluation and further increase. The 35 progenies were also seeded in single turf plot evaluations at Hort Farm II in October of 1998 to be maintained as a putting green. A composite of these 35 progenies was seeded in replicated trials in the same test as Syn EVM.

Seedlings of the 35 EVM lines were transplanted to an isolated space plant nursery of 4,450 plants the fall of 1998. This nursery was rogued to uniformity the spring of 1999 prior to pollinization. Any sick, unattractive plants with a low number of seed heads were removed. One thousand one hundred eighty—five plants were harvested as the breeder seed of PST-EVM summer of 1999.

Greenwich (EVM) is an advanced generation synthetic resulting from four cycles of phenotypic recurrent selection from polycross nurseries.

Seed production of Greenwich velvet bentgrass is limited to three generations of increase from breeder seed, one each of foundation, registered and certified. Greenwich is a stable and uniform variety. Pure Seed Testing, Inc maintains breeder seed of Greenwich. No off-types or variants have been observed in the reproduction or multiplication from breeder seed to foundation seed. Greenwich velvet bentgrass and the parents of Greenwich have produced turf and seed fields of equal quality, acceptable uniformity and good stability.

### Exhibit B.

## Novelty Statement for Greenwich (EVM) Velvet Bentgrass

Greenwich is most similar to SR-7200, however close comparison shows the following differences.

- 1. Greenwich has a panicle length at least 3.1 cm longer than SR-7200 (Tables A & B).
- 2. Greenwich has a subtending leaf width at least 0.4 mm wider than SR-7200 (Tables A & B).
- 3. Greenwich has a flag leaf width of at least 0.6 mm wider than SR-7200 (Tables A & B).

Table A. 2000 mean morphological measurements for entries in a colonial bentgrass seed yield trial seeded fall of 1999 near Hubbard, OR.

<u>Entry</u>	Panicle Length (cm)	Subtending Leaf Width (mm)	Flag Leaf Width <u>(mm)</u>
Highland	47.2	3.2	3.2
SR 7200	35.1	2.6	2.3
Greenwich (EVM)	39.4	3.0	2.9
Tiger	34.4	4.5	4.0
9PM	34.5	3.0	2.8
Alister (9F7-99)	27.8	3.2	2.9
9DH	25.8	2.9	3.4
LSD (0.05)	1.7	0.4	0.4

Table B. 2001 mean morphological measurements for entries in a colonial bentgrass seed yield trial seeded fall of 1999 near Hubbard, OR.

Entry	Panicle Length (cm)	Subtending Leaf Width (mm)	Flag Leaf Width (mm)
Highland	34.7	2.3	1.9
Greenwich (EVM)	35.0	2.8	2.4
SR 7200 ` ´	31.9	2.0	1.7
Tiger	31.7	3.1	2.4
Alister	29.1	2.2	2.0
9DH	28.6	3.6	2.8
LSD (0.05)	1.9	0.3	0.3

REPRODUCE LOCALLY. Include form number and date on all reproductions.

Form Approved - OMB No. 0581-0055

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U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY PROGRAM PLANT VARIETY PROTECTION OFFICE **BELTSVILLE, MD 20705** 

EXHIBIT C (BENTGRASS)

#### **OBJECTIVE DESCRIPTION OF VARIETY BENTGRASS**

		(Agrostis spp.)			
NAME OF APPLICAN  Pure Seed Test		TEMPORARY DE PST-EVM	SIGNATION	VARIETY NAME Greenwich	
ADDRESS (Street and N P.O. Box 449 Hubbard, OR	Vo., or R.F.D. No., City, State, and ZI	P Code)		FOR OFFICIAL USE PVPO NUMBER 200200	
(e.g. 089). Descriptions of be for SPACED PLANT	mber that describes the varietal characters should represent those the S. Give additional description for all all and evaluation data. The symbol "	nat are typical for the variety. characteristics that cannot be a	Ranges may be	given also. Measured d	lata should . Append all
	COMPARISON	VARIETIES FOR USE BE	LOW		
1 = Astoria 5 = Penncross	2 = Exeter 6 = Kingstown	3 = Highland 7 = Astra	4 = Seas 8 = Othe	side er (Please Specify): <u>SY</u>	7200
3 = Ve 5 = Rec 2. ADAPTATION 2 Norther		2 = Creeping A. stolonifera (A 4 = Brown Bent A. canina sspecial et al. a 4 = Adapted)  North Central		N. W.	
3. MATURITY (A	Please Specify):  t first anthesis): Use comparison variantier than		RIETY		
	y the same aster than				
4. HEIGHT (Aver	age of longest 10 shoots from soil sur	face to top of head)			
5 9 .5 cm Hei		cm Shorter than  Height the same as  cm Taller than	COMPA	ARISON VARIETY ARISON VARIETY ARISON VARIETY	
Form S&T 478 (2-99) designed	by the Plant Variety Protection Office using 1	MS Word 97			Page 1 of 4

5.	ROWTH HABIT				20	0200094
	% Prostrate 1	0 0 % Decumbent	9	% Geniculate	% Erect	
6. V	EGETATIVE REPROD	DUCTION				
R	thizomes: 1	1 = Absent	2 = Present			
S	tolons: 2	1= Absent	2 = Present			
0 0	0 % Rhizomes	1 0 0 % Stole	ons			
7. L	EAF BLADE					
C	color:	1 = Yellowish Green (Col 3 = Green (Exeter) 5 = Bluish Green (Highla	•		en (Washington) n (Kingstown, Tracer ase Specify):	nta)
	exture: ineness) [	1 = Very Fine (Kingstown 3 = Medium Fine (Astoria 5 = Medium Coarse (Virg	a)	2 = Fine (Exete 4 = Medium (S 6 = Coarse (Ve	Seaside)	
	Stomatal density	of upper leaf surface	Not Taken			
L	ower Surface:	% Smooth	1 0 0	% Rough		
U	pper Surface:	% Smooth	1 0 0	% Rough		
М	largins:	% Smooth	1 0 0	% Rough		
3	0 mm Width (Avera	age of 10)	mm Narrower tha	an	COMPA	RISON VARIETY
			Width same as	••••••	СОМРА	RISON VARIETY
, ,		0 4	mm Wider than	•••••	8 СОМРА	RISON VARIETY
2	9 mm Width (Flag l	Leaves) 4 3	cm Length (Fla	ag Leaves)		
8. LI	EAF SHEATH					
Aı	nthocyanin: 1	1 = Absent 2 = Present	% Red S	Sheaths		
9. LI	GULE (lower and middl	e leaves)		_		
Sh	ape at Apex: 1 0	0 % Acute	% Round	ded	% Trunc	ate
		% Other (Please Speci	fy):			
Pu	bescence: 1 0	0 % Glabrous	% Pubes	scent		
M	argins: 1 0	% Entire 9	0 % Tooth	ned		
		% Other (Please Speci	fy):	<del> </del>		
2	7 mm Length					
10. LE	EMMA			-		
Sh	ape:	% Lanceolate	% Ovate			
Form S&T 470	2 (2-99) degigned by the Dit	% Obovate 1 0 Variety Protection Office using 1	70 12111 201	ic		Dec 0 Cd
10m 30c1 4/0	, (2-22) assigned by the Fiant	various resolution Office using I	MID MADIGAL.			Page 2 of 4

10.	LEWINIA (COM	imaea)	1			2	00	2	00	09	Æ
	1 1	7: 1:1	% Oblong		% Other (Please Specify):						
Ĺ	1 nm W		<del></del>	mm Length (Exc	•						
	Color:	1 0 0	% Buff		% Silvery						
	<u>[</u> _		% Other (Plea	ase Specify):							
	Surface:		% Glossy	1 0 0	% Dull						
*	Texture:	1 0 0	% Smooth		% Punctate						
	Pubescence:	1 0 0	% Glabrous		% Sparse						
			% Copious								
	Basal Hairs:		% Absent	1 0 0	% Few						
			% Many		% Short						
			% Long		% Appressed						
			% Ascending		% Spreading						
	Awns:	1 2	% Absent	8 8	% Present						
			% Many		% Awn-pointed						
		1 9	% Short	8 1	% Long						
		1 9	% Straight	8 1	% Geniculate						
	Awn Insertion		% Basal	1 0 0	% Middle						
	on Lemma:		% Distal	h							
11.	PANICLE										_
	Type (in anthesis):	1 0 0	% Open		% Compact						
	Anthocyanin:		% Absent	1 0 0	% Present						
	Branches in		% Appressed		% Ascending						
	Anthesis:	1 0 0	% Spreading								
	Branches in		% Appressed		% Ascending						
	Fruit:	1 0 0	% Spreading								
	Branch Surface:		% Smooth	1 0 0	% Scabrous						
12.	SEED										
	0 5 Grams	per 1000 seed									
13.	SPRING GREET	N UP									_
	2 1 = Ear	ly (Exeter)	2 = Medi	um (Astoria)	3 = Late (Kingstown)						

14.	ENVIRONMENTAL RESISTANCE (0 = Not Tested, 1 = Susc	ceptible, 2 = Resistant) 2002000
	2 Cold 2 Heat 1 Drought 0 Shade	Other (Please Specify):
15.	DISEASE RESISTANCE (0 = Not Tested, 1 = Susc	ceptible, 2 = Resistant)
	2 Red Leaf Spot (Drechslera erythrospila)	Helminthosporium Leaf Spot (Bipolaris sorokiniana)
	0 Melting Out (Drechslera poae (Helminthosporium vagans))	Dollar Spot (Sclerotinia homoecarpa)
	Pythium Blight (P. aphanidermatum)	Pythium Blight (P. ultimum)
	Tusarium Blight (F. roseum)	Fusarium Blight (F. tricinctum)
	1 Fusarium Patch (Pink Snow Mold) (F. nivale)	0 Powdery Mildew (Erysiphe graminis)
	1 Ophiobolus Patch (O. gramnis)	0 Stripe Smut (Ustilago striiformis)
	2 Copper Spot (Gloeocercospora sorghi)	Typhula Blight (Snow Scald) (T. incarnata)
	Red Thread (Corticium fuciforme)	Brown Patch (Rhizoctonia solani)
	2 Stem Rust (Puccinia graminis)	2 Crown Rust (P. coronata)
	2 Leaf Rust (P. poae-nemoralis)	Other (Please Specify):
16.	INSECT RESISTANCE (0 = Not Tested, 1 = Susc	eptible, 2 = Resistant)
	0 European Chafer (Amphimallon solstitialis)	Garden Chafer (Phyllopertha horticola)
	Chinch Bug (Blissus insularis)	Webworm (Crambus spp.)
	Armyworm (Cutworm) (Pseudoletia unipuncta)	Other (Please Specify):
17.	GIVE VARIETY(S) THAT MOST CLOSELY RESEMBLE THE SUI indicate the degree of resemblance (D.R.) with one of the following nur similar variety, 2 = Same as, 3 = More than, darker or superior, etc.	BMITTED VARIETY: For the following characteristics mbers: 1 = submitted variety is less than, lighter, or inferior to
	Character Cinda Vanida D.D.	

Character	Similar Variety	D.R.	Character	Similar Variety	D.R.
Growth Habit	SR 7200	3	Leaf Color	SR 7200	3
Awn Length	SR 7200	2	Panicle Type	SR 7200	3
Seed Weight	Penncross	1	Turf Fineness	SR 7200	3
Cold Resistance	SR 7200	2	Heat Resistance	SR 7200	3
Drought Resistance	SR 7200	2	Shade Resistance	SR 7200	2
Brown Patch	SR 7200	3			

18. COMMENTS

## Exhibit D.

## Additional Description of Greenwich (EVM) Velvet Bentgrass

- 1. Greenwich has good heat tolerance in August in Oregon (Table 2).
- 2. Greenwich has good turf quality (Tables 2, 3, 4 and 5).
- 3. Greenwich has good brown patch resistance (Table 5).
- 4. Greenwich has good dollar spot resistance (Table 4 and 5).

Table 1. Mean initial heading dates for entries in a colonial bentgrass seed yield trial seeded fall of 1999 near Hubbard, OR.

Entry	2000	2001
PST-94568 PST-945Y PST-9BNC PST-9DH Alister	21 June 16 June 03 June 09 June 14 June	22 June 18 June 16 June 16 June 14 June
Glory PST-9FB PST-9SG velvet bent	11 June 10 June	13 June 13 June
SR 7200 Tiger	06 June 01 June 01 June	08 June 07 June 06 June
PST-9PM Greenwich (PST- EVM) velvet bent Highland	30 May 27 May 21 May	05 June 01 June 26 May
LSD (0.05)	10 days	8 days

Table 2. 2000 mean heat stress and turf quality ratings for entries in a colonial bentgrass/velvet bentgrass fairway turf trial seeded fall of 1999 near Hubbard, OR. (9 = ideal)

Entry	2 Aug 00 Heat Stress	Turf Quality
Greenwich (PST-EVM) velvet	7.3	6.7
PST-9BNC	7.3 5.0	6.7
	•	5.8
PST-9FB	3.7	5.7
9NCL Bulk	6.3	5.6
Alister (PST-9F7)	4.0	5.5
PST-94568	4.3	5.4
PST-9DH	6.0	5.3
PST-945Y	4.3	5.3
Tiger	4.0	5.0
PST-98Y	4.7	5.0
PST-9SG	5.7	4.8
LSD (0.05)	1.7	0.6

Table 3. Mean turf quality ratings for entries in a creeping bentgrass fairway turf trial seeded fall of 1998 near Hubbard, OR. (9 = ideal)

Entry	1999	2000	Mean
Syn ODA	5.9	6.2	6.0
PST-ODA	6.2	5.7	5.9
Syn OVSE	5.9	5.9	5.9
Century	5.2	6.3	5.8
Imperial	5.5	6.1	5.8
Grand Prix	5.3	6.1	5.8
CB2-94	5.5	5.9	5.7
PST-A2E	5.2	6.1	5.7
Syn OVN	5.7	5.7	5.7
PST-EVM velvet	5.5	5.8	5.6
LRF-2193	5.4	5.8	5.6
SRX 1C4	5.2	6.0	5.6
Cato	5.4	5.7	5.6
HUS-1	5.3	5.8	5.5
US3	5.0	5.9	5.5
Penn G-6	5.5	5.3	5.4
Syn OVL	5.4	5.4	5.4
Providence	5.3	5.3	5.3
Seaside II	5.4	5.1	5.3
18th Green	4.9	5.6	5.3
Crenshaw	5.0	5.3	5.2
FUS-2	4.7	5.4	5.1
CB3-94	4.5	5.6	5.0
Agrostis 25081	4.9	4.9	4.9
Agrostis 25077	4.8	4.9	4.9
Lopez	4.7	4.9	4.8
Princeville	4.8	4.8	4.8
Agrostis 25080	4.7	4.8	4.8
Mariner	4.5	5.0	4.7
Syn OPU	4.5	4.9	4.7
Penncross	4.5	4.9	4.7
Agrostis 25084	3.8	5.3	4.5
Penneagle	4.2	4.5	4.4
A 25085	4.3	3.9	4.1
PST-CCM crested dogtail	4.0	4.1	4.1
PST-CCL crested dogtail	4.1	4.0	4.0
Agrostis 25082	3.9	4.1	4.0
Agrostis 25083	3.8	4.1	4.0
Seaside	3.6	4.1	3.8
LSD (0.05)	0.5	0.8	0.6

Table 4. 2001 mean establishment, dollar spot, and turf quality ratings for entries in a bentgrass turf trial seeded fall of 2000 near Rolesville, NC and maintained at 0.5".

			r Spot			urf Quality		
Entry	Establishment	23 Jul	11 Sep	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Mea n
Greenwich	7.0 <sup>1</sup>	0.02		3				
PST-OPN	7.0° 8.0	6.0 <sup>2</sup>	3.7	6.3 <sup>3</sup>	6.9	4.8	4.6	5.6
PST-A2E	6.0 7.7	5.3	2.3	7.0	7.2	4.7	2.8	5.4
Syn EVN	7.7 5.0	6.0	3.0	6.7	7.4	4.7	2.8	5.4
Penn A-1	7.0	6.0 5.3	4.0	4.7	6.9	5.3	4.0	5.2
Syn OBR	7.0 7.3	4.3	2.0	6.7	6.6	4.3	3.1	5.2
Syn 945Y	7.3 6.7	8.0	2.0	6.7	7.1	3.9	2.6	5.0
Penn A-2	8.0	5.3	5.7 2.7	5.7	5.2	4.0	5.3	5.0
Syn ODO	6.3	5.0	2.7 3.3	7.0	6.7	3.6	2.8	5.0
Syn ORU	6.7	5.0 5.0	3.3 3.7	5.7	6.8	4.1	3.3	5.0
Penn G-1	8.0	5.0 4.7		5.7	7.3	3.9	2.9	4.9
Syn 9BC	6.3	5.7	1.3 2.3	6.0	6.4	4.1	2.6	4.8
Syn-OE	6.0	5.7 5.7	3.3	6.3	5.4	4.0	3.3	4.8
Syn 9BNC	6.0	5.7 5.3	2.3	4.7	7.1	4.7	2.6	4.7
Grand Prix	8.0	3.3	2.3 1.3	6.0	5.5	3.7	3.8	4.7
EF-115	7.0	3.3 6.0	2.0	5.7	6.8	4.3	2.1	4.7
Penn A-4	8.3	5.3	2.0	6.0	6.3	4.0	2.7	4.7
PST-OVN	7.7	5.3 5.3	2.0	6.7 5.7	6.7	3.3	2.1	4.7
Penn G-6	7.7	5.3 5.3	2.0	5.7 6.0	6.5	3.4	2.9	4.6
L-93	8.0	5.3 5.3	2.0	5.0 5.7	6.3	3.7	2.3	4.6
Pennway	8.0	5.0	2.3	5.7 6.3	6.1 5.9	3.9	2.7	4.6
Syn RHU	7.7	4.0	1.3	7.0		3.3	2.3	4.5
Southshore	6.7	5.0	1.7	7.0 6.0	5.3 6.1	3.1	2.3	4.4
Penneagle	8.0	4.3	1.7	6.0	5.7	3.4	2.1	4.4
Century	6.0	2.0	1.7	5.7	5.7 6.4	3.2 3.3	2.6	4.4
ORF Bulk	7.0	7.0	3.0	6.3	6. <del>4</del> 4.8		2.0	4.4
18th Green	7.0	2.0	2.0	6.7	4.0 6.6	3.7 2.4	2.6	4.3
PennLinks	8.0	5.7	1.7	5.7 5.7	6.0		1.6	4.3
Syn 9F7L	6.0	5.3	2.7	5.7 6.0	6.0 4.3	3.1 3.1	2.2	4.3
Seaside II	8.0	5.7	2.0	6.0	4.3 4.9		3.3	4.2
Syn ORE	7.0	3.0	1.0	6.3	4.9 4.6	3.1	2.3	4.1
Syn ORM	6.7	4.0	1.3	5.7	4.6 5.0	2.9	2.3	4.0
Crenshaw	7.0	1.7	1.3	5.7	5.0 5.9	3.2	2.2	4.0
Penncross	8.0	6.7	2.3	5.3 5.3	5.9 5.0	3.0 3.0	1.7	4.0
Syn 9FB	5.7	5.7	3.0	5.3 5.3	3.9	3.0 3.2	2.3 3.1	3.9
Lopez	8.0	3.3	2.3	5.3 5.3	5.9 5.3	3.2 2.7		3.9
Syn 9PMU	5.3	5.7	2.3	5.5 4.3	5.3 3.6	2.7 2.9	2.1 3.2	3.9 3.6
							<del>-</del> , ,	
LSD (0.05)	1.1	2.0	1.3	1.4	0.9	8.0	8.0	0.6

 $<sup>^{1}9</sup>$  = 100% established  $^{2}9$  = no disease  $^{3}9$  = ideal

Performance of cultivars and selections in a bentgrass putting green trial seeded in November 1998 on a sand-based Table 5.

o on a sand-based	Pink Snow Mold <sup>7</sup> Dec.	3.3 6.0 6.0 5.3 5.3 5.3 4.7 4.0 5.3 6.3 6.3 3.3 5.0 5.0 5.0 5.3
2 00 E	1	
	Dollar Spot <sup>6</sup> Oct.	6.3 5.0 7.0 7.0 5.0 5.3 4.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5
	Copper Spot <sup>5</sup> Sept.	6.0 5.7 9.0 5.3 7.7 7.3 6.7 9.0 6.7 6.7 8.3 8.3 8.3 6.0 6.0 6.0
	Brown Patch <sup>4</sup> Aug. 1999	9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0
	Brown Patch <sup>4</sup> July 1999	9.0 9.0 9.0 9.0 9.0 7.7 7.7 8.0 6.0 7.0 7.0 7.0 7.3 7.3 7.3 7.3 7.3 7.3
	Establish- ment³ April 1999	6.0 6.7 8.0 4.0 4.3 6.3 6.3 6.3 6.3 6.3 6.0 6.3 6.0 5.7 5.7 5.7 5.7 5.7 5.7 5.7 5.7
	Seedling- Vigor² Nov. 1998	6.5 6.3 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0
	Turf Quality <sup>1</sup> 1999 Avg.	6.6.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0
	Species	velvet creeping
	Cultivar or Selection	SH-7200 Penn G-2 Penn G-6 EVM Comp Pick MVB ODA Pick CB 2-94 SRX 1HS SRX 1HP L-93 MS2 SRX 1HB SRX 1C4 SOuthshore Pick CB E-97 Pick CB 13-94 SRX 102J MS7 Pick CB 3-94
		- 0 8 4 6 0 C 8 8 6 C 8

Cultivar or Selection		Species	Turf Quality¹ 1999 Avg.	Seedling- Vigor² Nov. 1998	Seedling- Establish- Vigor <sup>2</sup> ment <sup>3</sup> Nov. April 1998 1999	Brown Patch⁴ July 1999	Brown Patch⁴ Aug. 1999	Copper Spot <sup>5</sup> Sept. 1999	Dollar Spot <sup>6</sup> Oct. 1999	Pink Snow Mold <sup>7</sup> Dec. 1999
Century ES6 MS4 Putter 18th Green	0000	creeping creeping creeping creeping creeping	4.4.6.6.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.	5.0 5.7 5.7 5.0 6.0	4.7 4.7 4.7 5.3 5.0	5.3 6.7 9.0 8.0 6.7	0.0 0.0 0.0 0.0 0.0 8.3	9.0 6.0 7.0 6.3 4.0	0.0 0.0 0.3 0.3 0.3 0.3	3.7 3.0 3.0 3.7 3.0
Pick CB F-97 Cobra ES1 Providence Crenshaw		creeping creeping creeping creeping creeping	8. 8. 8. 8. 8. 8. 7. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8.	6.0 6.3 7.0 6.0	5.7 7.0 5.7 7.0	9.0 8.3 9.0 7.7	0.0 0.0 0.0 0.0 0.0	7.7 7.0 6.0 8.0 7.3	5.3 4.7 5.0 5.0	3.3 5.0 5.0 7.4
7001 MS5 Pick CB 1-94 Cato Penncross		velvet creeping creeping creeping	3.5. 3.5. 3.5. 4.6.	2.3 5.0 5.0 6.7	3.0 6.0 6.0 6.3	9.0 8.0 8.3 6.7	9.0 9.0 7.7 9.0 8.3	6.8 8.3 7.7 6.3	6.7 6.3 6.3 5.7	2.2 7.2.4 0.4.0 0.0
Mariner Pick CB 16-94 Bavaria AT-1 Peterson's bluegrass		creeping creeping velvet colonial	3.2 3.1 7.3 1.3	6.7 6.0 7.0 5.0 6.0	7.0 5.0 5.3 7.0	6.7 4.7 9.0 9.0	8.7 9.0 9.0 9.0	6.0 6.3 7.7 6.7 9.0	4.7 4.7 8.0 6.7 7.4	& 4 & & & & & & & & & & & & & & & & & &

Table 5 (continued).

Pink Snow Mold <sup>7</sup> Dec. 1999	1.5
Dollar Spot <sup>6</sup> Oct. 1999	1.4
Copper Spot <sup>s</sup> Sept. 1999	5.6
Brown Patch <sup>4</sup> Aug. 1999	7:1
Brown Patch <sup>4</sup> July 1999	
Establish- ment³ April 1999	
Seedling- Vigor² Nov. 1998	
Turf Quality <sup>1</sup> 1999 Avg. 0.8	
Species LSD at 5%=	
Cultivar or Selection	19 = best turf quality

19 = best turf quality
29 = best seedling vigor
39 = best establishment
49 = least brown patch
59 = least copper spot
69 = least dollar spot
79 = least pink snow mold

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I. NAME OF APPLICANT(S)  Pure Seed Testing, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
	PST-EVM	Greenwich
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) P.O. Box 449	5. TELEPHONE (include area code) (503) 651-2130	6. FAX (include area code) (503) 263-0703
Hubbard, OR 97032	7. PVPO NUMBER 0 2 0 0	094
8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no	o, please explain. X YES	□NO
9. Is the applicant (individual or company) a U.S. national or U.S. based company?  If no, give name of country	⊠ YES	□NO
If original rights to variety were owned by individual(s):     Is (are) the original breeder(s) a U.S. national(s)? If no, give name of country	⊠ YES □	] NO
b. If original rights to variety were owned by a company: Is the original breeder(s) U.S. based company? If no, give name of country	⊠ YES □	] NO
11. Additional explanation on ownership (If needed, use reverse for extra space):		
Pure Seed Testing, Inc. has licensed Greenwich to Turf-Seed, Inc.		
PLEASE NOTE:		
Plant variety protection can be afforded only to owners (now licensess) who most one afforded only to	All and a matter of a	

an be afforded only to owners (now licensees) who meet one of the following criteria:

- 1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
- 2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
- 3. If the applicant is an owner who is not the original breeder, both the original breeder and the applicant must meet one of the above criteria.

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